

**REMARKS**

This is responsive to the Office Action of December 01, 2005 to which response is due by March 01, 2006.

As suggested by the Examiner, Applicant has amended **Claim 1**, to clarify the invention and include in the claims the limitation that the grooves **encircle** the vertical axial line. This is not an addition of new matter and is clearly disclosed in the drawings, e.g., **Figs. 5 and 6**. Applicant has cancelled **claim 13**. Applicant has added new **Claim 14** which covers the subject matter of allowable **Claim 3** [based on the **Claim 1 (Currently Amended)**]. **Claim 3** has been cancelled to avoid redundancy with new **Claim 14**.

The Office Action, Paragraph 2 rejects Claims 1,2 and 13 under 35 USC 102(b) as being anticipated by US Patent No. 5,782,014 to Peterson. Applicant traverses this rejection.

As depicted in **Fig. 4 (Exhibit B, previously submitted)** the *recess* or groove 401 of Peterson is formed on the outer peripheral surface of the column-shaped projection 14, *helically* or like a screw, encircling the projection with a single groove. This encirclement is more than 180 degrees around the axis line. This is clearly shown in that the *recess* 401 appears on the sides S1 and S2. This indicates an encirclement greater than 180 degrees.

Additionally, as shown in attached Fig.4, the lead angle  $\theta$  (theta) is about 30 degrees, which is smaller than 35 degrees required by Claim 2

Thus, Peterson does not disclose a plurality of grooves, an encirclement of less than 180 degrees as found in Applicant's Claim 1 and those claims dependant thereon. Additionally, Peterson does not disclose the limitation of Claim 2 wherein the lead angle between the groove and a horizontal plane is set within a range of 35 degrees to 60 degrees.

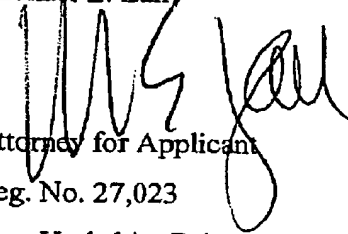
As previously indicated, these specific limitations provide unexpected benefits, i.e. see paragraph [007] and [016].

For all of the foregoing reasons, Applicant respectfully asserts that all claims presented, i.e., Claims 1, 2, 4, 10, and 14 are allowable and requests that this application pass to issuance.

Respectfully Submitted,

Dated: January 25, 2006

Michael E. Zall

A handwritten signature in black ink, appearing to read 'M. E. Zall', written over the printed name and title.

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